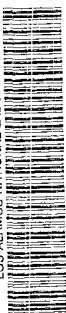


THE ATOM

Los Alamos Scientific Laboratory

January, 1966

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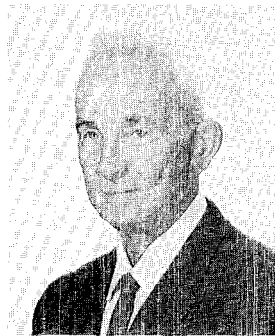
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ON THE COVER: The carved "santo" in this striking photo
by Bill Jack Rodgers is displayed in a unique museum in
Santa Fe, a part of the world's only international collection
of folk art. Story and pictures start on Page 3.

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an equal opportunity employer,
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Short Subjects

John Bolton, who vacationed in New Mexico and came back to live, retired December 30. Bolton headed the Engineering Department since 1949. He joined the Laboratory in 1946 as Assistant Leader of CMR Division and became acquainted with northern New Mexico some time earlier when vacationing from Corpus Christi, Tex., where he worked for Pittsburgh Glass Corporation. As head of ENG, Bolton had a key role in the spectacular postwar growth of the Laboratory. During his tenure the gross value of LASL installations climbed from \$38 million to \$211 million. Bolton has no hard-set plans for retirement. An enthusiastic outdoorsman, he plans only to continue living at his Santa Cruz Valley home.



Los Alamos Scientific Laboratory and Trinity Site have been declared "eligible" for "Registered Historic Landmark" status by the Department of the Interior. If the AEC for Los Alamos and the Army for Trinity Site agree to provide maintenance, the action authorizes the National Park Service to erect plaques at the two locations commemorating their importance to the nation in the field of nuclear energy.

Scenes and activity in the Los Alamos and Santa Fe areas are expected to be shown in a DuPont "Show of the Month" presentation on Wednesday, January 26, on KOAT-TV, Channel 7. The television series is entitled "This Proud Land" and the show on the Southwest is called "The Sun Country." Considerable filming in northern New Mexico was done late in the summer, at Los Alamos and during Fiesta in Santa Fe.

Henry A. Sandmeier, theoretical physicist in T Division, has been named visiting professor of nuclear engineering at Purdue University for calendar 1966. Sandmeier, a native of Belgium, has been a LASL staffer since 1963. He was scientific liaison officer for nuclear physics with the Office of Naval Research in the U.S. Embassy in London from 1956 to 1962 and earlier was a staff member at Massachusetts Institute of Technology. He is a graduate of MIT and has D.Sc. and Ph.D. degrees from the Swiss Federal Institute of Technology in Zurich. Sandmeier and his wife and son, 3, left Los Alamos December 7 for a trip to Switzerland, where Sandmeier delivered several seminar lectures, before taking up their residency in Lafayette, Ind.



The old log cabin on Pajarito Road has been reprieved from doom. Not only that, it will be marked with a sign relating its origin and historical significance, and there is assurance that other Los Alamos landmarks will not be destroyed indiscriminately. The action was decreed by AEC Area Manager Charles C. Campbell in response to reports that a new hydrogen pipeline would require removal of the homestead cabin near the entrance to Ten Site. Campbell said the pipeline will be rerouted. The Area Manager also asked the AEC office, the Zia Company and LASL to "please do not plan removal of any structure or object at Los Alamos which may be of historical interest without my personal approval in advance."

continued on next page

Top DOD Civilian Award Is Made to Late Al Graves

The Distinguished Public Service Medal of the Department of Defense has been awarded posthumously to Alvin C. Graves, J Division leader who died last July 29.

The presentation was made December 1 by Lieut. Gen. Harold C. Donnelly, director of the Defense Atomic Support Agency, to Graves'



Presentation of Defense Department Distinguished Public Service Medal was made by Lieut. Gen. Harold C. Donnelly of DASA to the late Al Graves' widow, Elizabeth.

widow, Elizabeth, who is a group leader in Physics Division (P-6).

General Donnelly said the medal is the highest honor that can be conferred on a civilian by the DOD.

The award citation, "for distinguished service to the United States through two decades," was read by Rear Admiral Ralph C. Johnson, DASA field commander.

The citation, which is signed by Secretary of Defense Robert McNamara, continued:

"While carrying important responsibilities to his home laboratory and the Atomic Energy Commission, he repeatedly and al-

most continuously served the Department of Defense in a variety of vital and demanding roles.

"His leadership, perception and dedication were in themselves invaluable and were an inspiration to all who were privileged to serve with him. In directing the scientific activities of United States nuclear testing, both in Nevada and the Pacific, from 1947 to 1965, his personal contribution was of major importance to the Nation's defense posture.

"Dr. Graves' selfless direction, tireless service, and willing acceptance of heavy responsibility merit the respect and gratitude of all Americans."

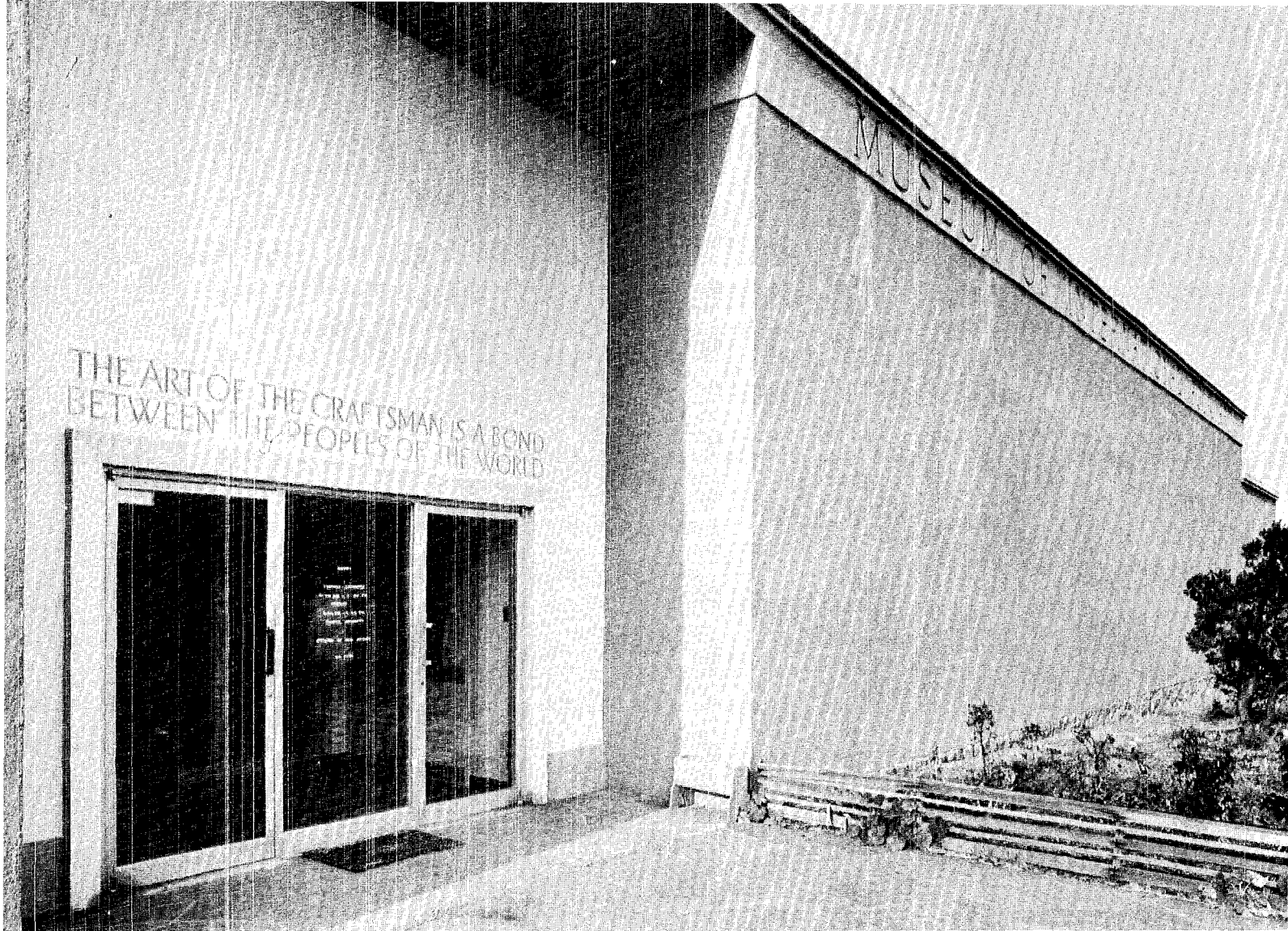
Among those attending the brief ceremony were LASL Director Norris Bradbury, military staff officers from DASA, Laboratory associates of Graves and members of his family.

Shorts . . .

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Dimas Chavez, a member of the Public Relations staff, is leaving Los Alamos this month to become a field representative for the Office of Economic Opportunity in the Austin, Texas, district. Chavez joined PUB in March 1965 after working for several years as a buyer in the Supply and Property Department. A Los Alamos High School graduate, Chavez is a Navy veteran and has a B.A. in Business and Economics from Eastern New Mexico University. In his new job, Chavez will work in New Mexico, Texas, Oklahoma, Louisiana and Arkansas.

Stanislaw Ulam, LASL Research Advisor, will be keynote speaker for the Conference on Pure and Applied Mathematics at New Mexico Institute of Mining and Technology in Socorro, N.M., on February 25. He will discuss "Prospects for the Future in Mathematics."



Museum of International Folk Art is housed in modernistic building on Santa Fe's Old Pecos Road. Structure was given

to state of New Mexico by Miss Florence Dibell Bartlett in 1953. Museum is also supported with funds from state.

Folk Art Museum

*Where the Traditions of the World
Are Presented and Displayed*

The "international" in Santa Fe's widely-acclaimed Museum of International Folk Art is not a hollow designation—and its activity calendar proves it.

Last month, for example, Dick Stark, the convivial Yale University music graduate who is curator of folk art collections, trundled about Mexico, taping "south of the border" Christmas music. Peter Welles, the Museum restorer, combed back trails of Central America for vestiges of little-known cultural pockets. Two Museum-sponsored students were in New Mexico's El Rito country. Back home, in the institution's labyrinthine basement, Miss

continued on next page



Left: Santo of St. Francis of Assisi and crucifix with mourning figures are both of Nineteenth Century New Mexico.

Right: No Ku Klux Klan costume, this is garb worn by the Penitentes, a lay organization of the Catholic Church that came to New Mexico from Spain.



Museum . . .

continued from preceding page

E. Boyd, curator of Spanish colonial art, assembled an Afro-Arabic exhibit due for February unveiling.

Such a global interest still engenders raised-brow skepticism in folk art museum directors the world over—especially in Europe, where such depositories are common but are regionally oriented. So avant-garde is the “international” philosophy followed by this museum that after 12 years of existence it is still, according to Stark, “the only one that I know of anywhere.”

Folk art—the spontaneous creations of the common people—is by definition a provincial medium, a product of rural, isolated communities. The art object may be a crude carving (perhaps a Sixteenth Century santo of St. James the Apostle), an ornate sample of metalcraft (a

silver Peruvian Candelabra, circa 1820) or an intricate costume (the habit of the hooded Penitente group). Whatever its function, the item is worthy of “folk art” designation if it reflects the distinctive spirit, creativeness and values of a sometimes unsophisticated culture, old or modern.

The disparities in folk art from society to society are apparent, says the 42-year-old Stark, who joined the Museum staff in 1962. What has not been so apparent—at least museums have not, as a rule, exploited the potential—are the parallelism and similarities in world-wide folk art.

It was this realization that brought the Museum of International Folk Art into being, the creation of a Chicago woman with a deep and abiding interest in preserving antiquities. Florence Dibell

Bartlett, tall, slender patrician and member of a family of art patrons, donated the land, building, nucleus of the collections and a sustaining entity, the International Folk Art Foundation, that augments state funds in nurturing the Museum and its far-flung activities. (The Museum is one of several branches of the state-supported Museum of New Mexico.) Miss Bartlett died in 1954, a short time after her dream of many years was realized.

The Museum occupies a spacious, strongly-colored, promontory-

mounted building in south Santa Fe, on Old Pecos Road. Dedicated in September of 1953, the structure commands a remarkable view--of Santa Fe, of the Sangre de Cristo ridges, of the sweeping vistas toward Albuquerque and on westward. Designed to harmonize with its milieu, the building is an effective marriage of the architectural past and present. Through its glass portals pass an average of 1,500 persons a month, many of them foreign visitors.

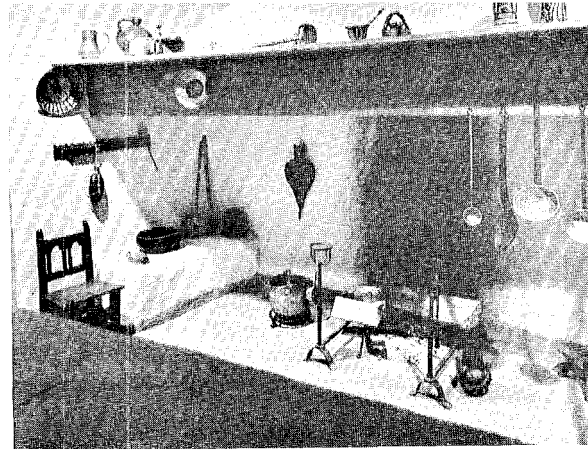
"Miss Bartlett saw the industrial society moving in on the folk art of the lower cultures," explains Stark. "She had always felt that folk art was a common denominator between peoples of the world. She thought an international museum of folk art could bring about a greater understanding among people."

Her idea was highly challenging. Usually an "international" museum of any genre is prone to draw juandiced looks from the antiquarian ranks which, generally, worship at the shrine of specialization as religiously as any of the more scholarly disciplines. Stark admits that it takes "a tremendous amount of scholarship" for such an undertaking, one reason he adduces that "almost all folk art museums are regional." But an "international" museum makes sense in New Mexico, he asserts, because this state's culture is an involuted melding of a diversity of influences.

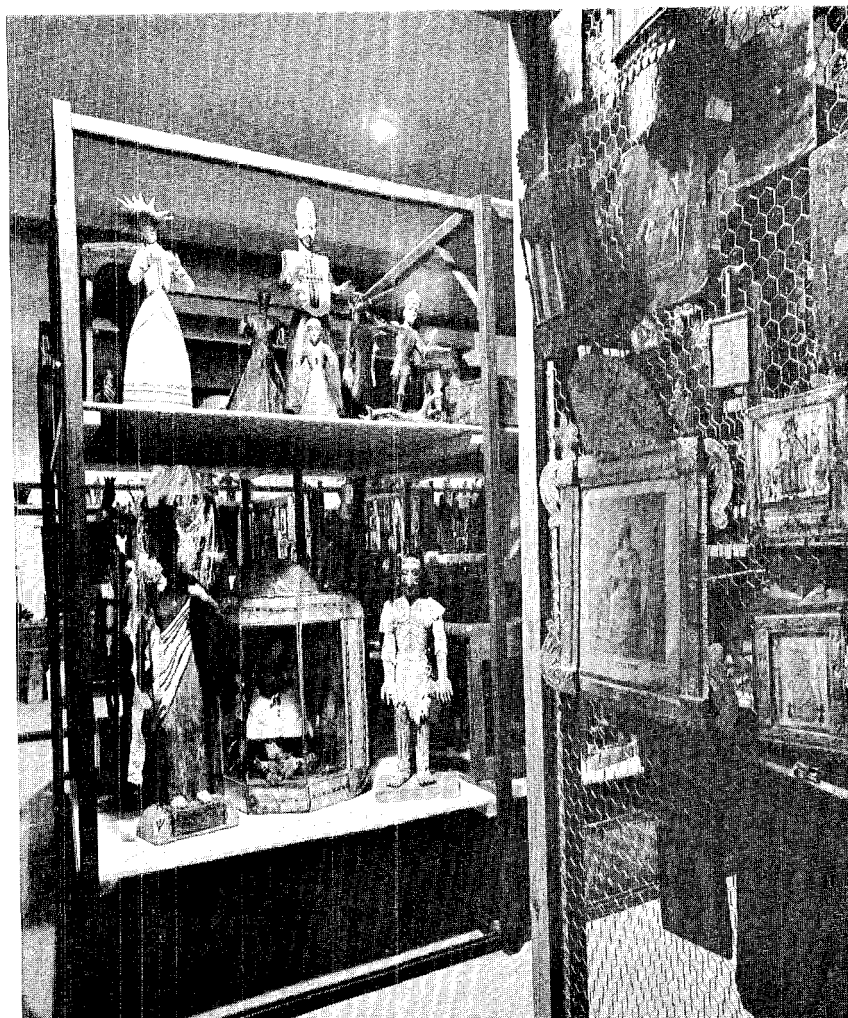
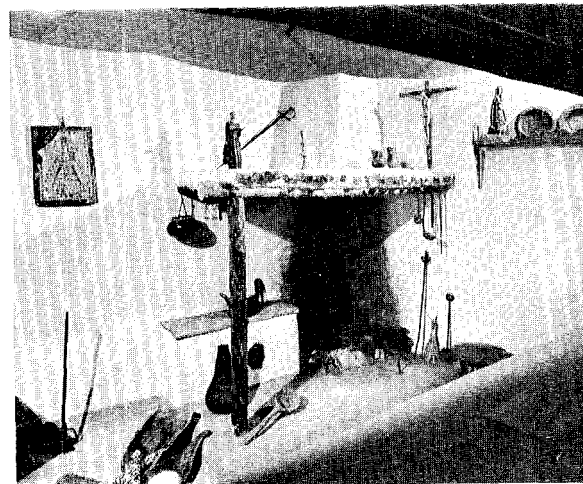
A Museum leaflet suggests the state's "Spanish culture had its sources not only in Spain but in Flanders, France, the old Austro-Hungarian Empire, the Arab world, Rome, Greece, Phoenicia and the Orient." Include the Spanish cultural affiliations with those of the Mediterranean, the Near and Far East and Latin America, and "the material culture of Spanish New Mexico was the end product of some 3,000 years in time and the contributions of five continents. ("Five Continents" is the title of the main Museum exhibition now on display. It ends this month.)

continued on next page

Right: Exhibits of early Spanish kitchen (above) and early New Mexico kitchen reveal similarities in design and utility.



Below: Thousands of folk art objects are stored in Museum basement. These are of Spanish colonial art period.



Museum . . .

continued from preceding page

With its world-wide emphasis and appetite, the Museum spreads a refreshingly varied fare. Its opening exhibit, which ran for three years, featured Miss Bartlett's extensive collection of 2,500 items of world folk art. Since then, exhibitions have included "The Chinese Lion-Dog in Chinese Popular Art," "Indonesian Art," "Popular Art of Colonial New Mexico," "Tibetan Art," and "Nacimiento," which was said to be the first major show on the Nativity in the United States. Major exhibitions run for a year; lesser features for a few months.

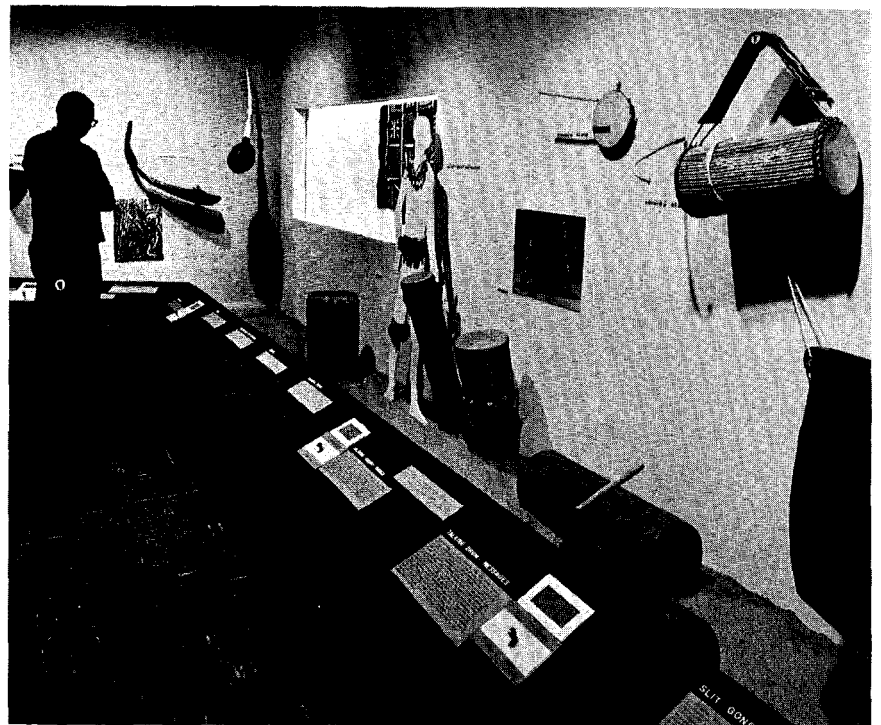
All displays are meticulously designed, Stark says, under the influence of a recent philosophy, evolved in the last 25 years among museum people, which he calls "the balance of the scholarly with the visual." Each exhibition has its own complementing flavor—even the gallery walls are purposefully "bland" so as not to interfere with the motif. Galleries can be enlarged or reduced in size at the whim of the exhibit designers, who usually pull out all stops: The maze of adobe walls forming the matrix of the present display—"Five Continents"—took six weeks to build. "The public sometimes mistakenly thinks that we just gather something and throw it up in a gallery," says Miss Boyd, the Spanish colonial art curator.

The Museum, says its curator, feels strongly about making its exhibitions "exciting and scholarly." The Foundation set up by Miss Bartlett has, with its financial assistance, greatly enlarged the Museum's capabilities in this respect. "It gives you breathing space to do exciting things," says Stark. One of the Foundation-sponsored functions is the importation of foreign performers: a Korean folk dancer, an Argentine guitarist, a British harpsichordist and a Swedish opera singer, to name a few. "We try to get the real McCoys," relates Stark.



Paul Masters, former Los Alamos superintendent of schools, directs Museum's state-wide mobile unit program, including exhibits for adults and children.

Small gallery has exhibition of folk art musical instruments. These are from West Africa. Sounds of instruments can be heard by depressing buttons on panel.



"We have had too much trouble with the ersatz."

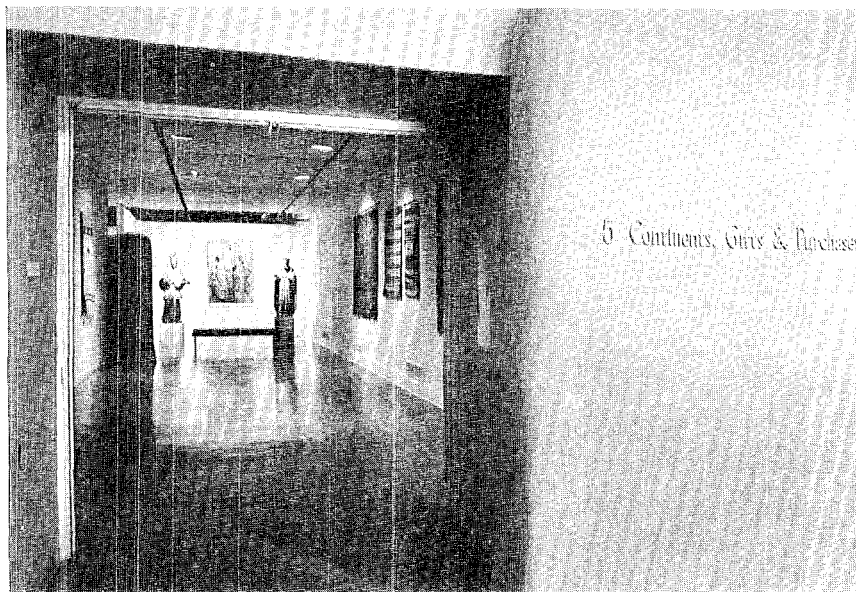
(Though the Museum is a stronger institution because of the Folk Art Foundation, it still gets its main support from the state as part of the Museum of New Mexico. The director of the parent organization, incidentally, is Dr. Delmar Kolb, former associate director of the Folk Art Museum, a post that no longer exists.)

Ingredients for the Museum's exhibitions frequently come from its own growing collections, stored in the basement bailiwick supervised by Miss Boyd, an ex-Philadelphian who has been with the Museum of New Mexico since 1951. She started a study of New Mexico's Spanish colonial art 30 years ago—on her own "because nobody else was interested"—and now, with her encyclopedic knowledge of the subject, has no peers in this state at least, avers Stark.

Under Miss Boyd's demanding guidance, new items (after a trip to the gas chamber for disinfecting and after restoration) go into the maze of closets, on hangers and shelves, on mounts and brackets, in cases and cubicles. There they join a ponderous variety of objects, ranging in size and multiformity from a mottled ivory bracelet from Africa to huge variegated wall paintings from Sweden.

Ancillary to the Museum's Santa Fe program are its New Mexico mobile units. Supervised by Paul Masters, a former Los Alamos school superintendent, the Folk Art Traveling Exhibit and children's Musmobile have been visited by thousands (60,000 school children were patrons of the latter in 1964). The adult unit has been in service for two years and the other unit for nine years. Response, says Masters, has been very rewarding. The Traveling Exhibit will be at Los Alamos' Mesa Public Library from February 28 to March 4.

While interest has been growing among New Mexico residents, a collateral curiousness about folk art has developed over the country—indeed, over the world. Substantive



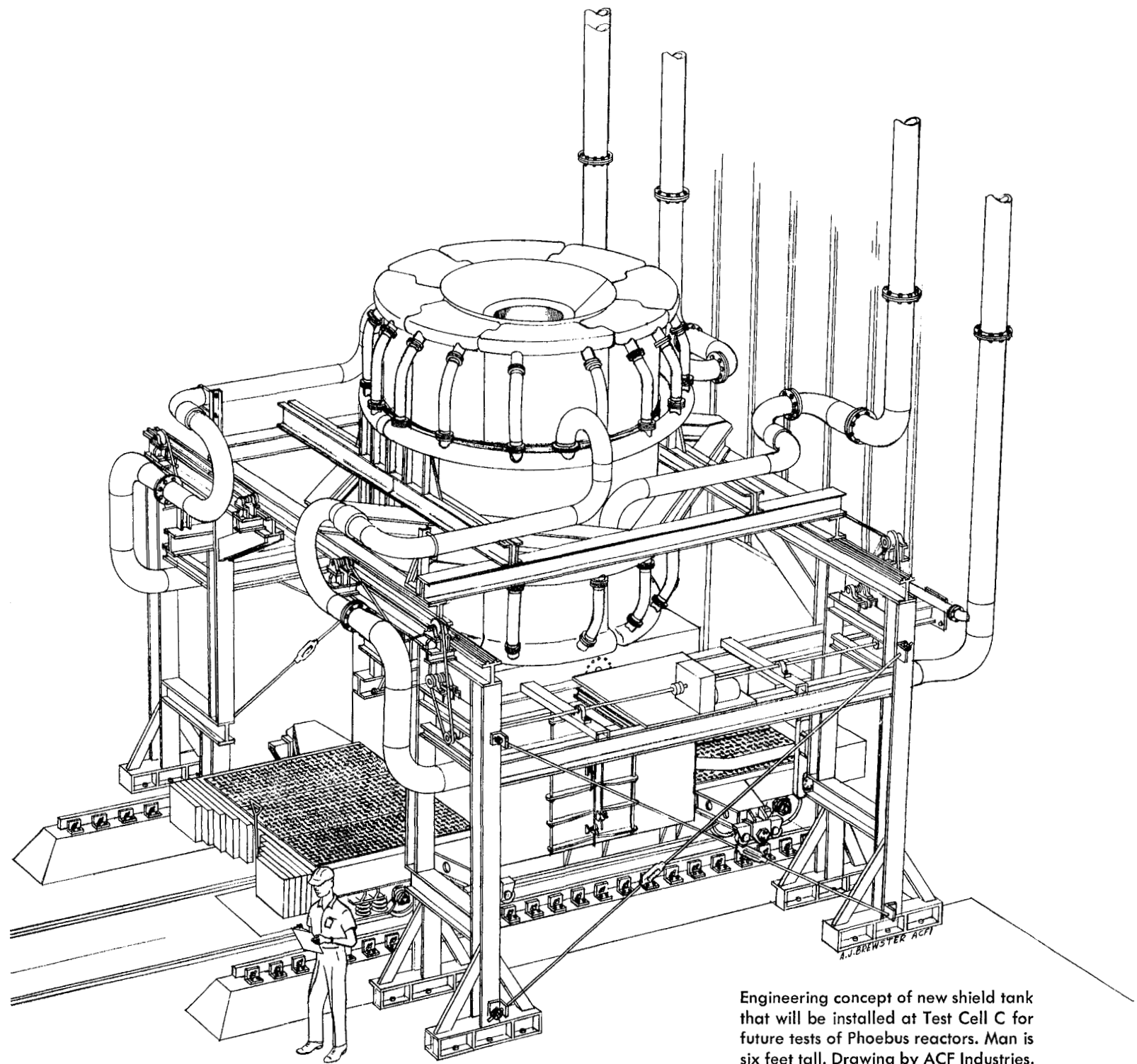
folk art museums have recently flowered in New York and Pennsylvania. One is now in the offing in ice-bound Greenland, of all places. Europe has hundreds. "Almost every country now is conscious that folk art defines the natural characteristics of the people," says Stark.

As interest blossoms and collectors multiply, the folk art of the more antiquated cultures will grow scarcer. Already, says Stark, the pinch is being felt. But this is just one more reason why the Museum of International Folk Art, with its world-wide viewpoint and varied collections, should continue to be a dominant figure in the field.

Entrance to Museum's main gallery. "Five Continents" exhibition ends this month. It will be replaced with Afro-Arabic display in late February.

Miss E. Boyd, curator of Spanish colonial art, started study of subject 30 years ago when she left Philadelphia to make her home in New Mexico.





Engineering concept of new shield tank that will be installed at Test Cell C for future tests of Phobus reactors. Man is six feet tall. Drawing by ACF Industries.

PHOEBUS

By EARL ZIMMERMAN

When Phocbus-1B is fired up next summer at the Nuclear Rocket Development Station it will be wearing a girdle.

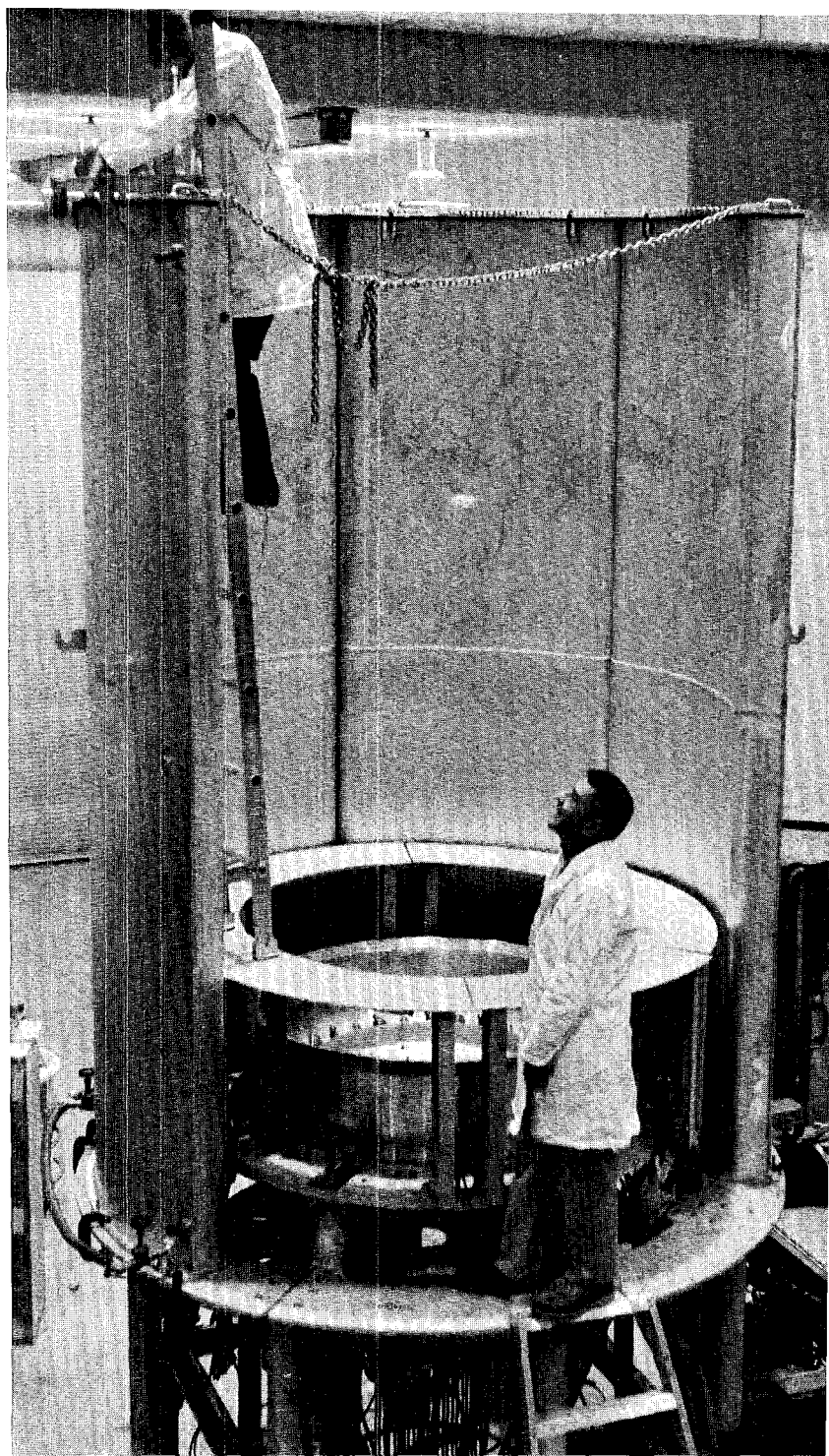
This innovation has nothing to do with Nevada modesty, although it will be countering a state of nuclear nakedness that poses a serious problem for high-power reactor testing.

Phocbus reactors, and the Kiwi reactors that preceded them, have been unshielded. Although flight-model reactors will need a "shadow shield" to protect crew and fuel, heavy shielding will not be necessary in space and has not been necessary for field tests of the relatively low-power reactors.

Lacking containment, the tremendous radiations generated by the reactor are dissipated in the surrounding air. Although it wasn't a grave handicap in the Kiwi program, induced radioactivity resulting from the reactor's escaping neutron flux has caused as much as five days delay in resumption of work around the test cell.

But with the much higher-powered and longer-running Phocbus devices on the way, engineers and scientists were faced with test cell "down times" that conceivably could extend for weeks. There will

continued on next page



Prototype annular shield tank is assembled at Pajarito Site. Tank is made in sections. Reactor fits in center. Working on assembly are Walt Ely (above) and Chuck Ketchie of ACF Industries Albuquerque Works, where the tank was fabricated.

GETS A GIRDLE

Phoebus . . .

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be not only much higher levels of induced radioactivity, but the threat of heat damage caused by the energy deposited from gamma radiation on the steel and other material in the reinforced-concrete test cell structures.

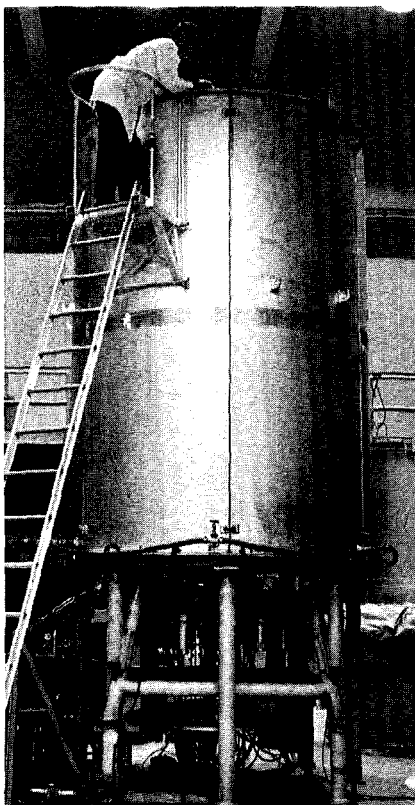
Use of the shield is expected to hold turn-around time to only a few days. The time-saving is of added importance with the double use of Test Cell C that has been prescribed by the Space Nuclear Propulsion Office—both LASL and Westinghouse will be using the test facility, hopefully on a test-every-two-months basis.

The shield is being designed and built by ACF Industries in Albuquerque to criteria set forth by LASL. It is based on calculations made by Glen Graves, Clay Watson and others in N-2 who have been concerned over the potential heat and radiation damage to test cells since the earliest Kiwi tests. The final design is also compatible with reactors planned for testing by Westinghouse.

A prototype shield has been assembled and successfully tested at Pajarito Site with the PARKA (Pajarito Research Kiwi Assembly) reactor that is used to check out new Rover reactor designs.

An annular tank of welded sheet aluminum, the shield resembles a double-walled sleeve, big enough to fit around the reactor. When it is filled with a mixture of boric acid and borax (for chemical neutrality to inhibit corrosion), the tank presents a boron-rich barrier to radiation. Boron has a very high neutron capture cross section—that is, it absorbs neutrons in great quantities.

Coupled with the low activation level of the aluminum, the eyewash-cleanser-water blend has a neutron attenuation of about 100 and a gamma attenuation of about 10. It soaks up neutrons like a sponge and for gamma shielding its effectiveness is about the same as a lead wall. The boron also serves to



Bill Geer of N-2 keeps close watch as boron solution fills sleeve-like tank that is used for tests with PARKA reactor.

neutralize the reactivity effects of the water, which otherwise could alter the performance characteristics of the reactor by bouncing neutrons back into the core.

Those who suggest lead bricks as an easier way to accomplish the same shielding should remember that lead is not an effective neutron shield and that the escaping radiation from an operating Phoebus reactor represents many, many megawatts of power which would melt a lead wall to a useless glob in a very short time.

Additional shielding could be achieved with a larger tank, but it would be superfluous because about 10 per cent of the total radiation from the operating reactor is going to get out through the open nozzle anyway, to be reflected back to the test cell area by the atmosphere. There is no way to eliminate that contamination.

The tank being built for Phoebus-1B will be 12½ feet high with walls about 19 inches thick. It will hold about 2,500 gallons of solution, fed from a 150,000-gallon reservoir and circulated by pumps through the tank at the rate of 2,000 gallons a minute.

After a reactor run, the tank can be drained quickly to a collecting basin in a test site arroyo. The principal activation of the solution comes from the activation of the sodium in the borax. The half-life in decay of this activity is about 15 hours. This means that in about one week the radiation will have decayed to entirely safe levels.

Even though the circulating system will reduce the buildup of heat in the tank, it is expected that the solution may get as hot as 165 degrees F. To make sure the liquid cools sufficiently to be effective for the next run, an artificial cooling system is being designed with a capacity to chill back to about 80 degrees.

The shield tank will become a permanent part of Test Cell C. Built in sections, it will operate as a sort of clamshell that can be closed around the reactor after the test car is plugged into the test cell wall.

When the Phoebus-2 family of reactors is ready for testing, a new and larger tank will be installed, according to George Breisch of J-18, the Project Rover advance planning group. It will be nearly 15 feet high and have a 5,000 gallon capacity.

Reactor scientists are excited about the benefits the shield promises and regard the savings in time as the next best thing to having two test cells again.

Mockup tests by N-2 at Pajarito Site required 600 pounds each of boric acid and borax to mix with 1,000 gallons of water. The 150,000-gallon reservoir at NRDS will swallow 45 tons of each chemical, an amount that N-2's Roger White has calculated would require the services of 440 Death Valley mules in the historical 20-mule team lineups.

Charter Proposes Council-Manager

*Vote on February 8 Will Determine
Course of Los Alamos Government*

Man has few opportunities, perhaps once in a lifetime, to choose how he wishes to be governed. One of those singular occasions befalls the citizens of Los Alamos on February 8.

That is when the Los Alamos County Charter—a constitution for local government—will be up for adoption or rejection. A majority of the votes cast will be the determinant.

Approval of the Charter will establish a County Council-County Manager administration that will become effective January 1, 1967. Rejection will mean the present system will continue indefinitely, or until yet another Charter is drafted and approved.

The proposed charter is a document for "home rule," the authority for which was obtained by statewide approval of "Amendment No. 4" to the State Constitution at the November 1964 general election.

A 10-member Charter Commission, appointed last spring by the

continued on next page

Charter . . .

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Board of County Commissioners, worked 300 hours for nine months drafting the new Charter. It was presented to the County Commission on December 17, incorporating changes that resulted from two public hearings held in November.

Copies of the final Charter—as it will become effective if approved at the referendum—are being mailed to every Los Alamos resident.

Although it will intimately affect every citizen of Los Alamos, little public interest was demonstrated during preparation of the Charter. Even the public hearings attracted less than 200 persons.

The Charter Commission did not work without dispute. There was divergent opinion among its own members and from the various individuals and organizations that did make appearances during the preparation period and public hearings. Nevertheless, Chairman Ellis Stout, who served on the County Commission for eight years, formally presented the Charter with the unanimous approval of the Commission members.

The Charter sets the framework for a type of local government that many students of political science regard as the most efficient, truly representative and pressure-free in the democratic process. This is to be achieved, surprisingly, with a minimum of elected officials.

The policy-setting body in Los Alamos is to be a five-member County Council. Four members will serve four-year terms and one will be elected for two years. The four-year posts will be staggered in pairs. Thus the balance of power will be at stake in each election. Elections are to be held in even-numbered years on the same day in November as the state and national general election. Primary voting will follow the same pattern as prescribed in state law.

Councilmen will be elected on an at-large basis; that is, there will be no ward or precinct representation. Political party lines will be

OPPOSITION

A committee has been formed to campaign against adoption of the proposed Los Alamos County Charter.

"We believe the Charter as it is now written contains pitfalls to representative government," said J. Carlton Hoogterp, chairman pro tem of the group.

Hoogterp said the committee, which was organized after the November public hearings on the Charter, plans "a vigorous educational campaign before the February 8 referendum."

followed in primary balloting and for the general election ballot, but there is provision for "unaffiliated" candidates to get on the general election ballot by petition.

Only other elected post filled on the county level will be that of County Judge, a two-year term. The office of County Judge is a new one for Los Alamos. It is created to effect a jurisdiction over local ordinances—laws that the Council may enact—and is similar here to the office of municipal judge in many cities. Justices of the peace will still be around, but j.p.'s are creatures of the state and have no authority on local ordinances when another jurisdiction exists. Studies show that the majority of all Los Alamos court cases involve violations of ordinances.

Chief administrative officers of the county will be the County Administrator (also known as the county manager). He will be appointed by the Council and serve at its pleasure. The duties of clerk, assessor, sheriff, treasurer and surveyor (engineer) are vested in the Administrator. He may delegate others to perform these duties but such delegation is subject to council approval.

The five members of the Council will elect one of their own number to serve as chairman and official "greeter" for the county. The Council chairman will be akin to a ceremonial mayor. The Administrator

will serve as secretary to the Council.

Possibly the most controversial and certainly the most discussed portion of the Charter is that relating to operation of the utilities systems—the electric, gas, water and sewer services.

The County Administrator is charged with appointing a Utilities Manager "on the basis of his professional qualifications" and subject to Council concurrence. The Council is to appoint a five-member Utilities Board to monitor utilities operations. Although it will have neither operating nor administrative authority itself, the Board is obliged by the Charter to make reports and recommendations to the Council.

The Charter spells out procedures intended to assure adequate reserves for the maintenance and improvement of the utilities systems. There is provision for the annual transfer from the Accumulated Surplus Account (where receipts over operating costs are deposited) to the county General Fund of an amount equal to what would be paid in taxes if the utilities were privately owned. There also is an obligation to transfer funds to an Additions and Betterments Account and a Replacement or Retirement of Plant and Equipment Account. These annual payments will be based on the book value of each utility and the amount in the ASA.

After 1972, when the county will have had the utilities operation for five years, the Charter requires a specified minimum in the individual accumulated surplus accounts each year. If the balances fall below the minimum a public hearing must be held to consider appropriate rate increases.

The office of County Attorney will be filled by Council appointment, as it is now by the Board of County Commissioners.

There are two other auxiliary units of county government for which membership will rely on Council appointment:

—Board of Equalization, to hear appeals on tax appraisals; three



These are the framers of the proposed Los Alamos Charter (clockwise from foreground): Rebecca Williamson, assistant secretary (back to camera); Mrs. William Steger, secretary;

Ellis Stout, chairman; Robert Fox, counsel; William Wood, Larry Hanson, William Kirk, Jean Van Dilla, Margaret Prince, David Thomson, Edwin Stockly and Edwin Bemis.

members, all must be owners of real property.

—Planning Commission, number of members not specified. Adoption of a comprehensive plan for future county development is also prescribed by the Charter.

Members of the Commission used a charter prepared by a consulting firm as a starting point for the document finally proposed. The group began with weekly sessions, then twice weekly and by summer's end had started a three-times-a-week schedule that lasted through November. In addition to the official public hearings there was an education meeting—lightly attended—last June.

Members of the Charter Commission represented all parcels of community life:

—Chairman Ellis Stout, safety engineer in the Chemistry and Metallurgy Division of LASL.

—Vice-chairman William W. Wood, chemist and physicist in LASL's GMX-10.

—Edwin A. Bemis, health physicist in Health Division at LASL.

—Thomas J. Cook, fiscal officer for the Zia Company.

—Lawrence M. Hanson, history and government teacher in Los Alamos High School.

—William L. Kirk, nuclear engineer in N Division of the Laboratory.

—Margaret Y. (Mrs. William) Prince, housewife, mother of 4, data analyst in LASL's CMF-5.

—Edwin W. Stockly, attorney in private practice.

—David B. Thomson, physicist in GMX-6 at LASL.

—Jean F. (Mrs. Marvin) Van Dilla, housewife, mother of 4 and a biochemist (not working now).

Mrs. William Steger was secretary to the Commission. Robert

Fox, Santa Fe attorney, was retained as paid counsel. All members of the Commission have been active in civic activities. All have volunteered to appear before organizations and informal gatherings during January to explain provisions of the Charter and how it was prepared.

Despite the apparent lack of public interest expressed so far, past experience predicts Los Alamos will reflect a gratifying awareness of its importance on February 8:

There was a 41 per cent voter turnout for the hospital disposition referendum in 1963 and a 75 per cent turnout for the utilities disposition referendum in 1964.

That is an outstanding display of civic participation—the national average turnout for special issues on the local level is 10 to 20 per cent.

The ability to promptly resume atmospheric testing of nuclear weapons was one of the national defense guarantees when the Nuclear Test Ban Treaty was ratified by the United States in 1963.

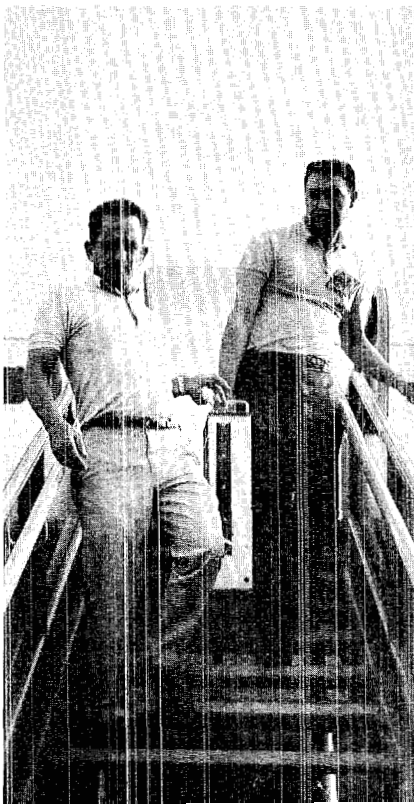
LASL plays a key role in the test readiness program, which the past two years has included exercises in the Pacific. The 1965 program was Operation Roundup. Nearly 60 staff members and technicians from Los Alamos went to Hawaii and Johnston Island in November and December for simulated test activity.

In Hawaii it rained a lot. The islands even had a flood. At Johnston Island there were new barracks and somewhat more attractive facilities than in previous years, but J.I. is still a long way away.

The pictures on these pages were taken by Win Headdy of D-8 and John McCloud of D-10.

BE PREPARED

Unloading instruments are Lucian Black of J-16 and Johnny Gallegos of J-10. Much equipment was taken to test area in Pacific from Los Alamos.



NC-135 "flying laboratory" jet aircraft, remodeled to accomodate scientific equipment, are serviced at Hickam Field, Hawaii, after flight from Kirtland AFB.

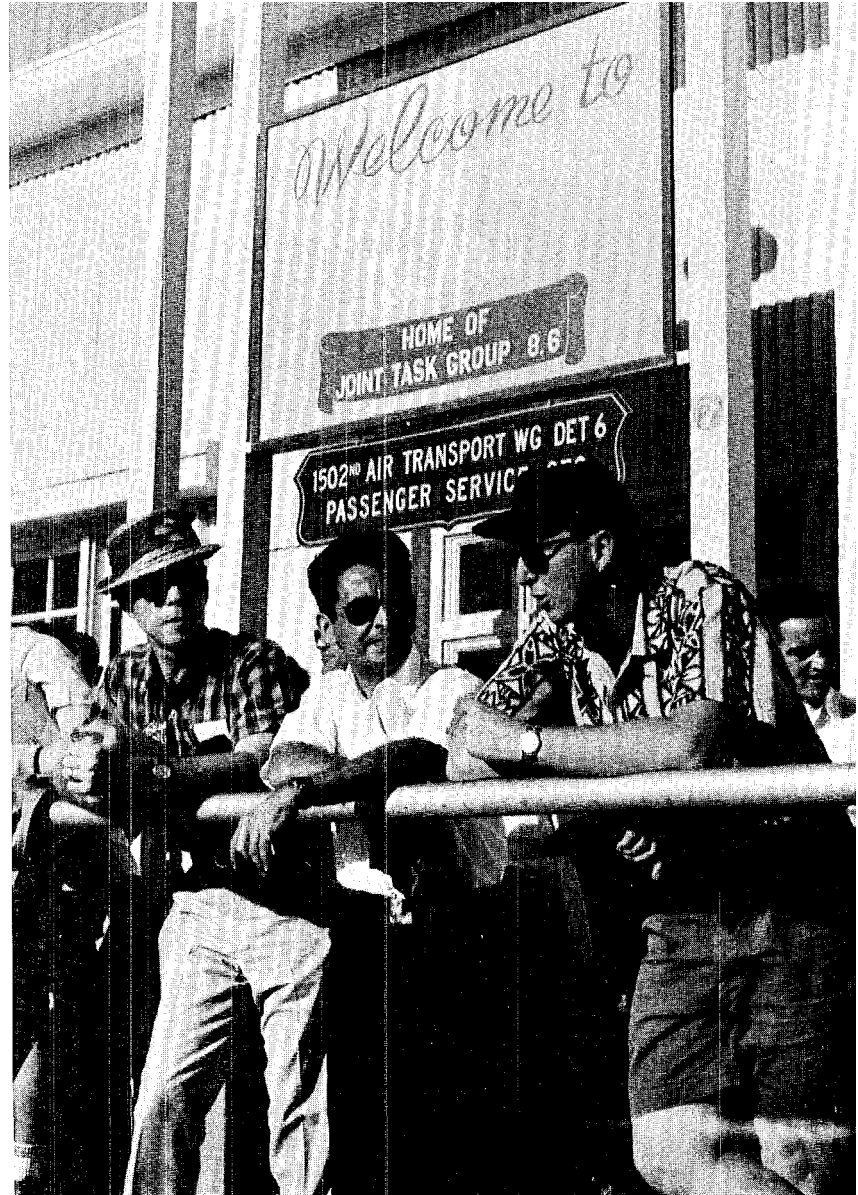


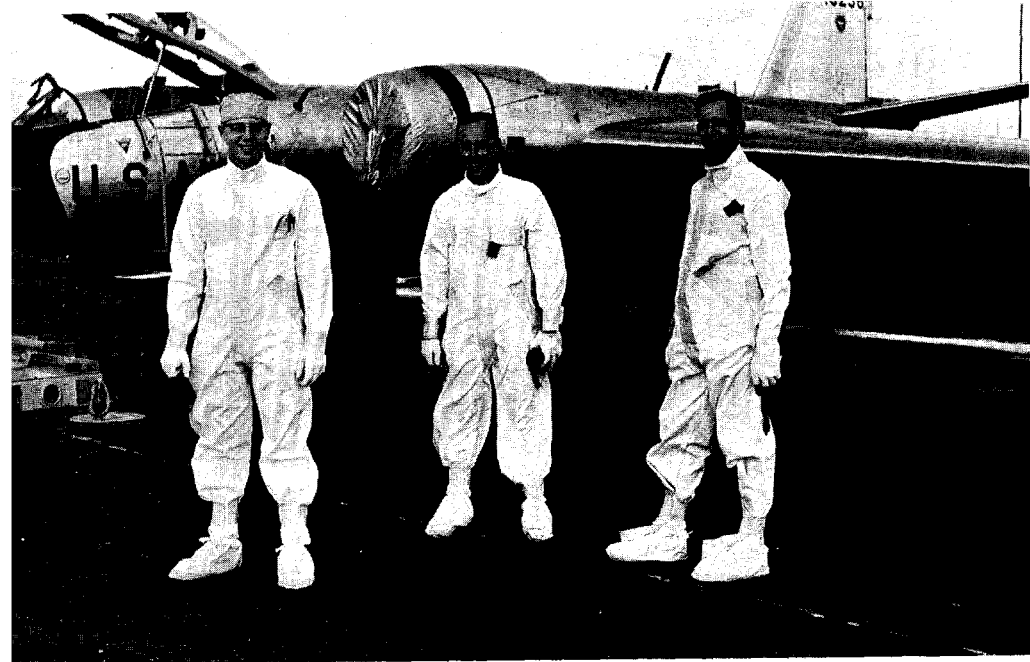


John Cole of J-1 shows his pass to gain entry to restricted area used by Roundup personnel near Hickam Field.

Right: Norm Riechman of SP-2 (from left), Willie Ortiz of D-4 and Bob Harper of D-8 talk things over after arrival at Johnston Island headquarters.

Lower right: Jim Ried of SP-3 operates do-it-yourself gas pump for Government vehicles at Roundup compound.

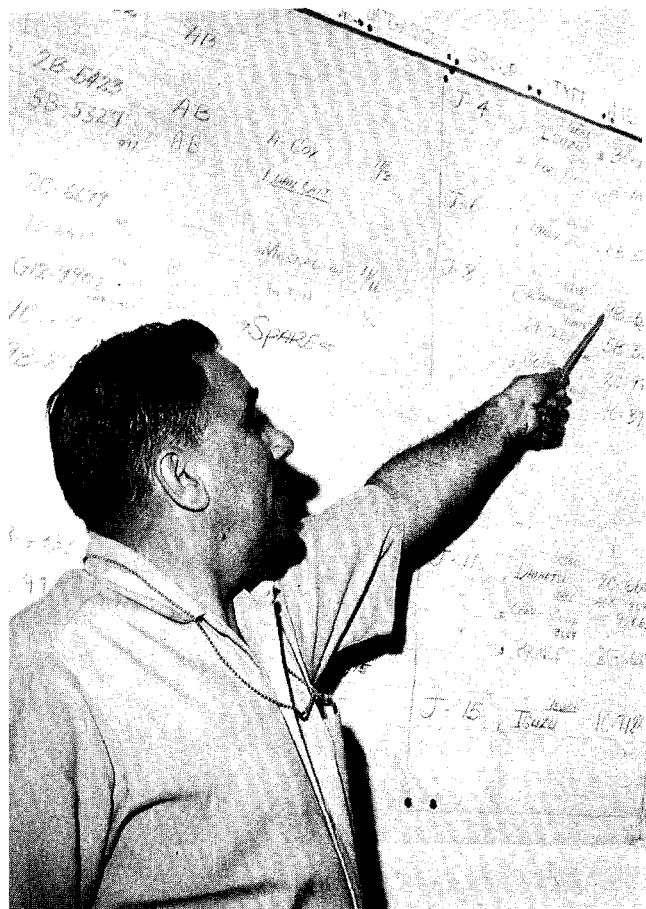
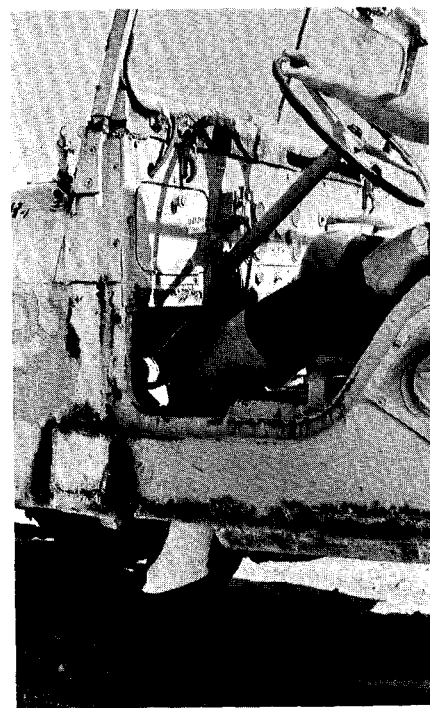


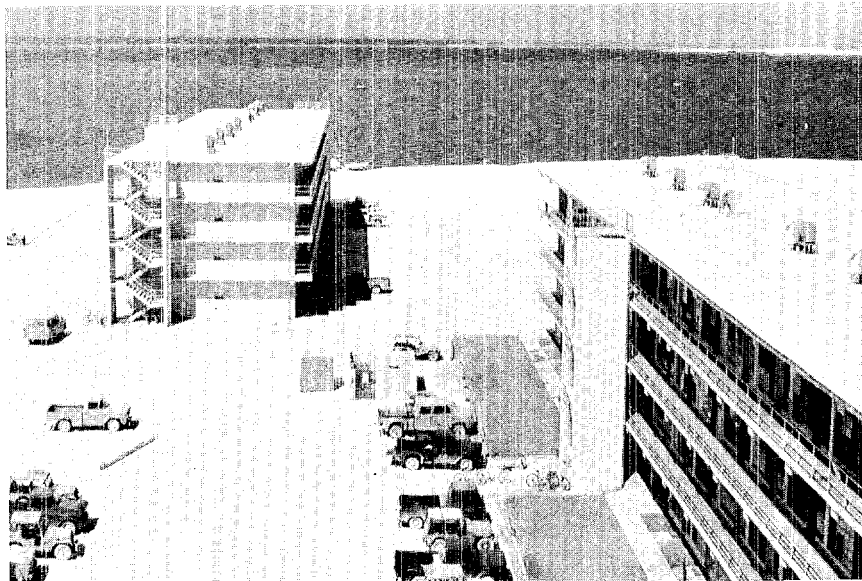


Decked out in "clean" suits, Dick Eastin of EG&G (from left), Bill Justice of Holmes & Narver, and Carl Johnson of LASL's J-1, posed before appearing as unidentified actors in documentary film concerning airborne air sampling.

For Neno Segura of SP-2, only the license numbers were different. Neno, who keeps tabs on LASL vehicles in Los Alamos, did the same in Hawaii.

Below: Nothing simulated about the deteriorated condition of these AEC vehicles. The split-level driving compartment in the Jeep and the easy-off pickup fender are both the result of corrosion from salty Pacific Ocean air.





Johnston Island is still just Johnston Island, but living conditions have been improved with construction of new messing facilities and new dormitories like these.

Nothing unfamiliar about this outfit anymore, but Paul Guthals of J-11 wasn't going into orbit, just suited up for high altitude air sampling.

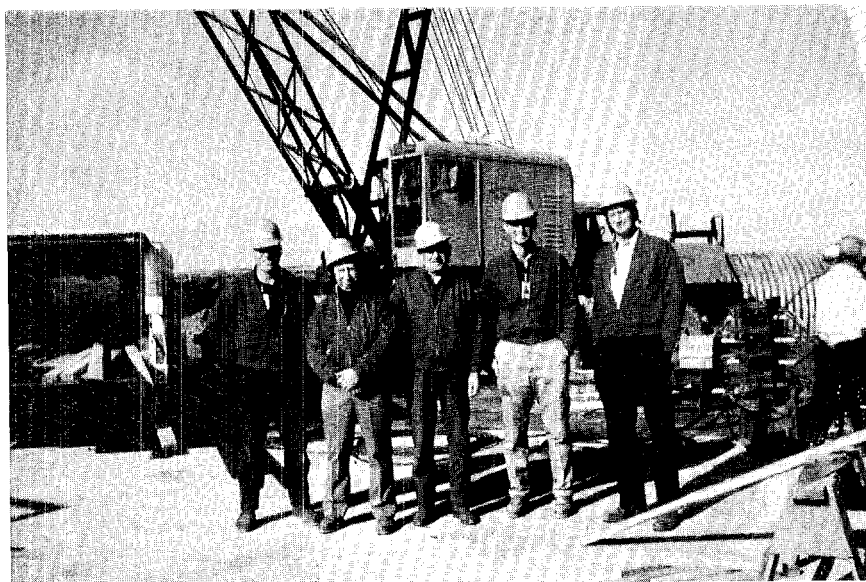


LASL Staffers in Alaska, Too

Hawaii wasn't the only outlying state that drew the attention of LASL scientific teams recently. A contingent was in Amchitka, Alaska, October 29 for Operation Long Shot, the detonation of a nuclear device some 2300 feet underground.

One of the purposes of the exercise was to provide a seismic signal for measurement checks at known distances. The shot was detected at the seismic station maintained by Sandia Laboratory in Albuquerque.

Amchitka is a chronically damp and windy island about 40 miles long and five miles wide, 1400 miles southwest of Anchorage, and is remembered by more than 50,000 servicemen who were stationed there during World War II when there were fears of Japanese invasion.



Lineup of LASL personnel at Amchitka for Operation Long Shot included (left to right): Theodore T. Scolman of J-8, Willard B. Dudgeon of J-7, William T. Bond of J-8, Jerry M. Tatom of J-6 and Robert H. Campbell of J-DO.

Dr. Samuel Glasstone:

A Spokesman For Science

By DUDLEY LYNCH

Three years had passed since Hiroshima, but the science of nuclear energy, as seen by many Americans, was still mysterious and misunderstood. There was not yet an encompassing book, for instance, that you could hold up and say, "This is what it's all about." The unnerving speed of the field's development and its monumental breadth had discouraged the writing of such a volume.

That is why, in 1948, a message went out from the U.S. Atomic Energy Commission which said, in effect: "Needed! Remarkable man with both the audacity and ability to explain and clarify the world's most awesome scientific breakthrough."

The man selected was Dr. Samuel Glasstone, an incisive-minded, London-reared chemistry professor who came to the United States in 1939. In his hands was placed responsibility for writing a lucid,

multi-purpose account of the advent of nuclear energy. It was to be scholarly. But not highly technical. Something that both the inquisitive housewife and nuclear physicist could—and would—read.

Dr. Glasstone then wrote his *Sourcebook on Atomic Energy*. In it, the intelligent layman finally had an explanation that, for the most part, he could understand. The scientist had a versatile, wide-ranging reference work. The field of nuclear energy, meanwhile, discovered that it had enlisted one of the most competent spokesmen to be claimed by any discipline in any age.

Seventeen years later, Dr. Samuel Glasstone—industrial chemist, college professor, management consultant, radio lecturer, science editor and writer on chemistry, nutrition, atomic energy and, more recently, the space sciences—is still on the job, despite his near-septua-

Dr. Samuel Glasstone, who became an author somewhat reluctantly, has written 30 books interpreting scientific achievement in fields ranging from nutrition to nuclear weapons and space.

Photos by Bill Regan

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Glasstone . . .

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"His books represent an inspiration to all of us . . ."—Glenn Seaborg.



Glasstone began his science education career in the 1920's as a radio lecturer for the British Broadcasting Company.

genarian age. He's now written 30 books. His printed wordage exceeds nine million, and he's read in ten languages, including Russian and Japanese.

"We are grateful that there has been a Samuel Glasstone in our business," says Dr. Glenn T. Seaborg, chairman of the Atomic Energy Commission. "His books represent an inspiration to all of us who are concerned with scientific communication."

This energetic scholar-writer has, indeed, done a superb job. And he always has. He was the first popular science lecturer for the British Broadcasting Company in the 1920's. His book, *Chemistry in Daily Life*, made fuel combustion, digestion and textile preparation, among other topics, intelligible to many an Englishman for the first time. During World War II, a Glasstone book told war-crimped Americans how they could stay healthy on a \$2.50 weekly grocery tab.

From his works on nuclear energy, says AEC Chairman Seaborg, today's young nuclear scientists and engineers have learned much of what they know. "And they continue to turn to them again and again as authoritative reference sources," adds Seaborg. Moreover, says a New Jersey chemist, any member of that profession can be expected to have studied Glasstone somewhere along the way—on physical chemistry, electrochemistry, theoretical chemistry, thermodynamics or rate processes. "I doubt that anyone has ever presented physical chemistry more effectively," adds Dr. Henry Eyring, graduate dean at the University of Utah.

The latest scientific area to sustain a Glasstone invasion is the space sciences. Here, too, to use popular parlance, he appears to be a hit. The volume is *Sourcebook on the Space Sciences*, written for the National Aeronautics and Space Ad-

ministration. Says fellow space writer William R. Corliss: "As with many other Glasstone books, this one starts with the basics and leads you into advanced material so effortlessly that you often look back in surprise at the ground covered."

An AEC consultant since 1948, Dr. Glasstone has worked out of New Mexico's Los Alamos Scientific Laboratory for 14 years. Here, in his fourth-floor office, he is frequently seen hunched over a disheveled desk. Though devoted to his adopted country (he was naturalized in 1944), he still evinces evidences of his English upbringing: On that cluttered desk invariably is a teapot; his fast flowing speech betrays the English brogue.

Being born an Englishman in 1897 was a masterful stroke of luck for a science-minded youngster.

For on the Isles and across the channel, the radically-new theories and discoveries of the late 1890s were bursting explosively onto the scientific stage. The result: badly shaken fields of physics and chemistry and horizons far beyond the most turgid imaginations of earlier Nineteenth Century prophets.

X rays had been discovered in 1895. A year later, French physicist Henri Becquerel, toying with a uranium salt, had stumbled onto radioactivity. The year of Glasstone's birth, Englishman J. J. Thomson was contemplating the role of the electron—one of the atom's elementary particles—and by 1898, Pierre and Marie Curie were to detect radium.

By the turn of the century, physics was on the brink of a revolution. German physicist Max Planck postulated his quantum theory of radiation in 1900, and five years later, Albert Einstein, a Swiss Patent Office examiner, bared his astounding views on relativity. In 1911, Ernest Rutherford sketched the basis of the theory of modern atomic structure. Eight years later, the same Rutherford bombarded nitrogen with an atomic particle and produced oxygen and hydrogen. Man had then achieved the

alchemist's vainly-sought goal, the transmutation of matter.

During this scientific maelstrom, Samuel Glasstone was born, the son of a London grocer. His home was a three-story, red-brick house not far from the heart of the city. His parents were "moderately" educated, and he had one sister, who was to become the University of London's first woman physics graduate. A precocious child, Sam Glasstone decided at the age of 11 he would become a chemist. He was greatly influenced by a school teacher. In his teens, he haunted the second-hand bookstores of Shoreditch and Charing Cross Road districts, prodded by an insatiable reading appetite.

When he was 15, he decided he was ready for the University of London. Despite his age, he was admitted. When he graduated four years later, he was at the head of his class, with a chemistry major. Although he was later to receive M.Sc., Ph.D. and D.Sc. degrees by virtue of outside research, an unusual University of London arrangement, this was the end of his on-campus studies. "I think my life illustrates one thing," says Glasstone. "That formal education need be a very small part of the overall education."

Three jobs later, the young Englishman reached a moment of truth. "I recall this very vividly," he describes. "My working quarters were on the second floor of a laboratory that ran quality controls on the manufacture of acids and cream of tartar. One day I was looking out a window and I saw people walking up and down, and I thought, 'Well, I'm a slave here—just within these four walls.'" So he quit his short career as an industrial chemist. With his usual imperturbability, he applied for a job lecturing in the new field of physical chemistry at London's august King's College. He admits, "I was almost entirely ignorant of the subject." But he was hired.

He left in 1921 for the University College of the Southwest (now the University of Exeter), and in 1925

"... millions of man-years saved for scientific workers because of Sam's crystal clear presentations."—Arthur Ruark, AEC Division of Research.

was made head resident of Grendon Hall—an ivy-covered complex a mile from the campus. This experience, serving *in loco parentis* to 50 male students, was a highlight of his career. "I learned something of the problems of young people," he says. At the same time he was filling his university lectern, teaching extension courses and delivering the BBC broadcasts.

The BBC programs—indirectly—led Dr. Glasstone to his first book, *Chemistry in Daily Life*. Suggested by a friend, it was an amplification of his radio lectures. Once it was written, however, writing as such was forgotten by the 32-year-old educator. But it could easily have been the start of a "popular" writing career.

"I've never been a popular writer in the sense that I write down to my audience," asserts Glasstone. "I try to explain scientific concepts, even complicated ones, in simple language. But even in my more popular works I've always aimed at the more highly intelligent layman."

His writing interest was re-whetted in 1928. While translating a



Glasstone's books have been published in ten languages, including Russian and Japanese. He prepares his manuscripts in longhand, revises but once and then sends his copy off to a typist.

German chemistry text, he decided he could pen a better book himself. It was published in 1930, and again Glasstone dismissed writing as a livelihood. Then in 1931, he was asked to author a volume on recent advances in physical chemistry. "This started me on my writing career," he says. "I began to look for things to write about."

Eight years later, Glasstone and his wife, Violette, came to the United States. Under his arm, he carried the prodigious 1,700-page, handwritten (as are all his works) manuscript of his *Textbook on Physical Chemistry*. Typing facilities were scarce, so a New York firm agreed to set the type from the manuscript—for an extra fee. His new boss, Dr. Hugh Taylor, then head of the chemistry department at Princeton University, recalls the incident: "For a book of the size of the first edition (1,289 printed

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Glasstone . . .

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pages) this probably constituted an undertaking without precedent. The manuscript, however, was in such excellent state and the handwriting so clear and legible that the experiment was an unqualified success."

So was the book. William R. Minrath, vice president of Van Nostrand Company, now of Princeton, the publisher, says the second edition, issued in 1946, still enjoys significant text sales, despite the vast changes in the subject in the last 19 years.

From Princeton University, Glasstone moved first to the University of Oklahoma, then to the University of California. He was at Boston College in 1948, when the AEC asked him to author the atomic energy sourcebook. It was the beginning of a long friendship. Says Dr. Seaborg, the AEC chairman: "Over a period of 17 years he has produced for the AEC 12 classic nuclear texts or reference books, each a model in its field. His books . . . show what science writing at its best can be—unfailingy correct, but also fluent, lucid, graceful and superbly organized."

Glasstone's overall knowledge of nuclear energy is probably second to none. The sourcebook, published in 1950, put the field in perspective. He has written several highly secret works on nuclear weaponry. U.S. Armed Forces and Civil Defense groups use his treatise on the effects of nuclear weapons as a standard manual. *Principles of Nuclear Reactor Engineering*, written in 1956, says one authority, was a teething ring for the first generation of nuclear engineer-physicists. And his book on controlled thermonuclear reactions, published in 1960, has had "a very great influence on the development of the field," says Dr. Arthur E. Ruark, of the AEC's Division of Research. "It would be interesting," adds Ruark, "to speculate on the number of millions of man-years which have been saved



A native of England and naturalized U.S. citizen, Glasstone is a consultant to the AEC. He lives at Pojoaque, has office in LASL Administration Building.

for scientific workers because of Sam's crystal clear presentations."

Most of Glasstone's nuclear energy works have been written—in his crabbed but legible calligraphy—at his Pojoaque home, 17 miles east of Los Alamos. He rises early, attempts to produce 8,000 words a week when writing. He revises each chapter once, again in longhand, and then he's virtually finished. A typist gets the manuscript.

Glasstone is a man of small stature. He has bluish-gray eyes, a wide cherubic grin and less of his silver hair than he would like. His normal attire includes a wide tie of aging vintage and an innocuously-colored sweater. He is astute and aggressive, distant but obliging. Ever polite, firm but seldom de-

"Never say that something is impossible."—Samuel Glasstone.

manding, he has—in the words of his dear friend, Dr. Arthur C. Hoffman of the National Aeronautics and Space Administration—all "the dignity of a British gentleman."

Reflecting on his experience in the sciences, Dr. Glasstone muses, "One thing I have learned is never to say that something is impossible. I may say that something is improbable, but not impossible." The wisdom of 50 years of study, he says thoughtfully, has also led him "to realize the limitlessness of scientific knowledge. Just when you think you have exhausted a particular area in science, something new comes up."

A strong nuclear arsenal, Glasstone believes, has kept the U.S. out of a major war. "It is fortunate," he reflects, "that the Soviet Union and the United States are aware of the tremendous destructive power of nuclear weapons." But he also feels that "the test ban treaty of 1963 was justified" because of the dangers posed by accumulating radioactivity.

In view of his latest book, what does he think of man's chances for getting to the moon and back? "I think the space program will be successful," he says optimistically. "It is very well organized." Glasstone himself doesn't aspire to make the trip. But it wouldn't be too far out to imagine that one of his present or future books may someday go in his place.



Ghost-Savers *at NTS*

Name of the man who wore the boot and slept in the stone cabin at White Rock Springs has long been forgotten. Located near Area 12, at the Test Site's northern end, the spring supplied water to a small ranch headquarters that was active in the 1920s.

Photos by Dudley Lynch

For two days last month, a couple of four-wheel-drive power wagons bounced from one end of the Nevada Test Site to the other, transporting a party of visitors to places with the lesser-known names of Cane Springs, Cat Canyon, Wahmonie and Tippapah. The tourers boasted a variety of occupations and home bases, ranging from Washington, D.C., to San Francisco. But they had a singular purpose: Interest in the preservation of archeological and historical sites on the desert proving ground.

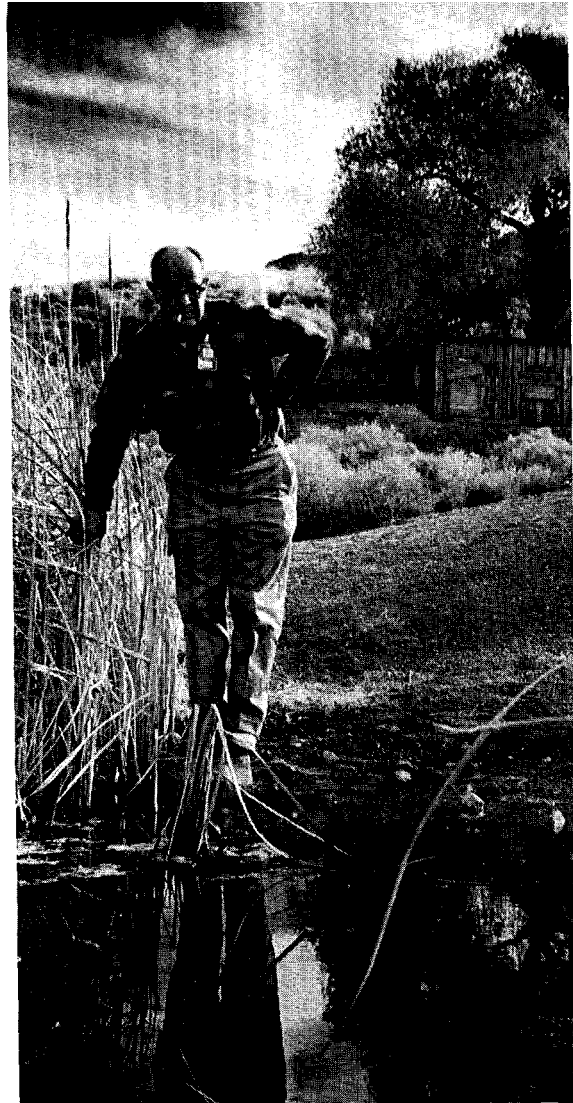
Fred Worman, LASL biologist and archeologist, was the official guide. A sample of the stops in Worman's itinerary: a fossil bed, stagecoach station, ghost town, prospector's cave, Indian burial and campgrounds, several abandoned ranch cabins and a concentration of Paiute petroglyphs.

The inspection was arranged by the Atomic Energy Commission,

which is concerned with protecting such locations as are stipulated under the Department of Interior's Protection of Antiquities Act of 1906. Most of the sites were marked last fall with signs warning that unauthorized altering of the remains is an unlawful offense.

Making the trip were Paul J. F. Schumacher, National Park Service Regional Archeologist, San Francisco; Vincent Schultz, Ecologist, Division of Biology and Medicine, D. R. Swindle, Assistant Director for Logistics, and Daniel Donoghue, Real Estate Officer, all with the AEC, Washington, D.C.; B. W. Menke, Assistant Manager for Administration, Nevada AEC Operations Office; Donald R. Tuohy, Curator of Archeology, Nevada State Museum; Curtis A. Kincer, Assistant Director, Security Division, Space Nuclear Propulsion Office, Jackass Flats, Nev., and several public relations staffers.

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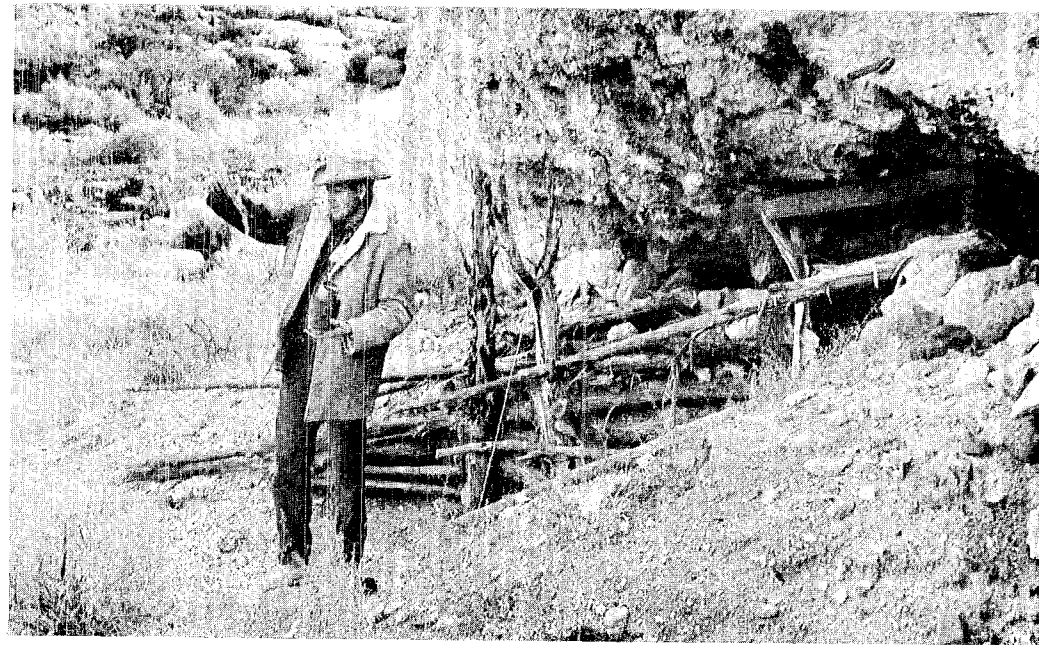


Above left: Stages running between Las Vegas and Tonopah at the turn of the century stopped for fresh horses at Tippapah Springs. Intruders have inflicted severe damage to the barn and stone stage station, seen nestled against the surrounding Test Site hills.



Above: LASL's Fred Worman, official guide for the tour, peers into Cane Springs, whose waters have been used by transitory visitors for 800 years.

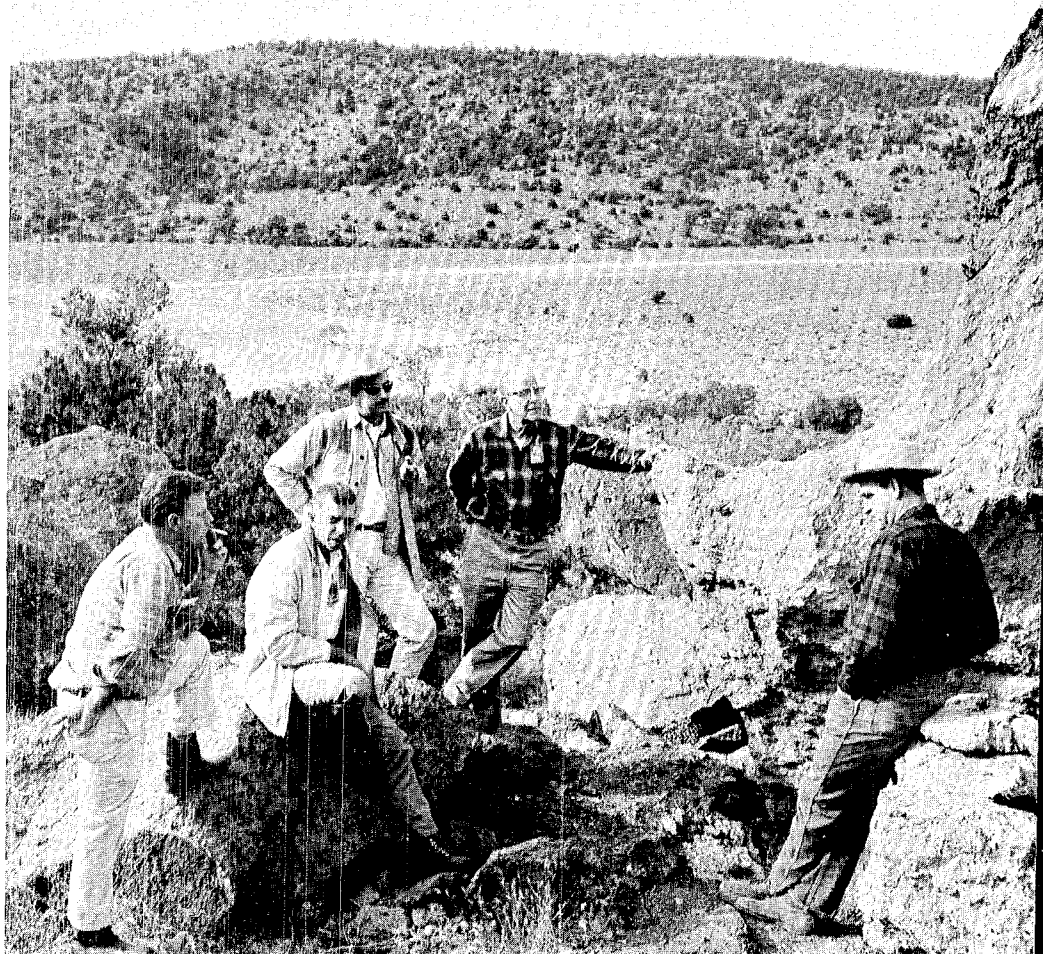
Left: Vincent Schultz, Ecologist with AEC's Division of Biology and Medicine, spotted petroglyph in Cat Canyon on Test Site's extreme western edge.



Above: It's called Prospector's Cave, but LASL Archeologist Worman suspects its occupant may have been a horse thief. Dave Miller, of AEC's Nevada Operations Office, examines items found in isolated cave, which has escaped plunder.

Left: Don Tuohy inspects formation of limestone located near Tippapah Springs.

Right: Last fall, Don Tuohy (extreme left) of the Nevada State Museum, excavated a burial site at this location on Pahute Mesa. Seen to his left, inspecting the site, are Curt Kincer of the Space Nuclear Propulsion Office; B. W. Menke of AEC's Nevada Operations Office; LASL's Worman and Paul Schumacher of National Park Service.



The Technical Side

Colloquium and Local Chapter of American Nuclear Society, Texas A & M University, Nov. 9:

"The Los Alamos Coupled Reactor Experience" by Curtis G. Chezem, N-2.

Symposium on Practices in the Treatment of Low and Intermediate Level Radioactive Wastes, Vienna, Austria, Dec. 6-10:

"Operational Practices in the Treatment of Low and Intermediate Level Radioactive Wastes—Argonne and Los Alamos Laboratories, USA" by Ludgard A. Emelity, and C. W. Christenson, both H-7, LASL; and W. H. Kline, ANL.

Informal Seminar, S.E.P.R., C.E.N. de Cadarache, St. Paul-les-Durance (B. du Rh) France, Dec. 13-14:

"Light Nuclei Reactions" by Leona Stewart, P-10.

Twenty-first Meeting of the High Temperature Fuels Committee, Hanford, Wash., Dec. 14-16:

"Refractory Plutonium Fuel Material" by J. A. Leary, W. C. Pritchard, R. L. Nance, and M. W. Shupe, all CMB-11.

"Summary of Recent and Current Studies in High Temperature Chemistry, V, November 1965" by M. G. Bowman, CMB-3.

"Molten Plutonium Alloys as Fast Reactor Fuels" by L. D. Kirkbride, K-2.

Conference on Observational Aspects of Cosmology, Miami Beach, Fla., Dec. 15-17:

"Possible Local Origin of Quasars" by James Terrell, P-DOR.

NASA Solar Eclipse Symposium, Moffett Field, Calif., Dec. 16-17:

"Airborne Observations of the Coronal Emission Line Profile Lambda 5303 at the Total Solar Eclipse of May 30, 1965" by D. H. Liebenberg, CMF-9.

"Photographic Photometry of the Solar Corona at the 1965 Eclipse from 40,000 Feet Altitude" by Sidney N. Stone, J-10.

"Total Solar Eclipse Predictions for Aircraft" by A. N. Cox and D. D. Eilers, both J-16.

"The Photoelectric Tracking System Used on the LASL NC-135 Aircraft" by Ralph E. Partridge, J-DO and Paul Rudnick, J-10.

629th Meeting of the American Mathematical Society at the American Association for the Advancement of Science Meeting, Berkeley, Calif., Dec. 26-31:

"Positive Solutions of a Quadratic Integral Equation" by George H. Pimbley, T-8.

American Physical Society Meeting, Los Angeles, Calif., Dec. 20-22:

"Search for a Li^+ State at 10.6 MeV in the Elastic Scattering of Protons by Helium-3" by George J. Igo, P-DOR and Wallace T. Leland, P-10.

"Proton-Proton Spin Correlation at 27.3 MeV" by Nelson Jarmie, P-DOR, John E. Brolley, P-DOR, Herald W. Kruse, J-10, Howard C. Bryant, P-DOR, all LASL; and Rodman Smythe, Paul W. Allison, and George E. Bixby, University of Colorado.

"Tight-Binding Calculation of 5f Band in Monocarbides of Uranium, Neptunium and Plutonium" by Edward F. Kmetko, CMF-5.

"Coulomb Excitation of Even-Even Erbium Isotopes with Oxygen Ions" by G. G. Seaman, P-12 and J. M. Palms, P-DOR.

"Decay of the Am^{242m} 14-msec Isomer" by R. B. Leachman and B. H. Erkkila, both P-12.

American Nuclear Society Meeting, Washington, D.C., Nov. 16:

"Kiwi and Phoebus Development Status" by Keith Boyer, J-DO.

NEW HIRES

Ronald Anthony Cosimi, Los Angeles, Calif., J-7.

Robert Roy Critchfield, Los Alamos, CMB-3

Gayle Mortensen, Albuquerque, N. M., J-10

Margaret E. McDaniel, Los Alamos, N-3

Ruby Elaine DeMouth, Espanola, N. M., H-DO (Casual)

James Leon Clark, Golden, Colo., T-1

Winifred A. Whinery, Los Alamos, GMX-3

Gary Lane Tietjen, Salt Lake City, Utah, T-1

Norma Jean Bell, Los Alamos, J-8 (Rehire)

Afton S. Kirby, Knoxville, Tenn., CMB-3

Robert B. L. Martinez, Los Alamos, ENG-3

Delmo Dallas Carney, Espanola, N. M., P-15

George J. Yates, Santa Fe, N. M., J-12

Samuel Lee Reading, Las Vegas, Nev., N-7

McBurney D. Keller, New Orleans, La., ENG-1

Jere Lane Green, Berkeley, Calif., CMB-11 (Rehire)

Lillian J. Roybal, Espanola, N. M., PER-2

Jean Milbank Furnish, Los Alamos, D-2 (Rehire-Casual)

Virginia Grace Glass, Los Alamos, T-1 (Rehire)

Cecil William Thorn, Los Alamos, CMF-13 (Casual)

Eddie Gene Jarvis, Albuquerque, N. M., ENG-4

Patricia Ann Kelley, Los Alamos, P-DO (Rehire-Casual)


Jon Marie Barnes, Los Alamos, AO-1

James Henry McNally, Pasadena, Calif., W-8



An over-and under traffic pattern has been established at the north end of the Los Alamos Canyon bridge to simplify rush-hour access to HRL Building. A new road shelved along the north canyon wall makes it possible to leave Diamond Drive at the West Road-Fairway intersection and loop beneath the bridge to reach the HRL parking lot, eliminating the necessity to cross oncoming traffic on Diamond. The photo shows the tiered roadbeds. The Omega Site road, which goes under the bridge on the canyon floor, is out of the picture to the right.

For Reporting Change of Address

Previous 

Address

If your address has changed please inform THE ATOM by clipping and filling out this coupon. Print or type your name and both your old and new addresses.

Mail to: Mail and Records,
Addressograph
Los Alamos Scientific Laboratory
Box 1663
Los Alamos, N.M. 87544

New 

Address

name

address

city state zip code

address

city state zip code

WHAT'S DOING

OUTDOOR ASSOCIATION: No charge, open to the public. Contact leader for information regarding specific hikes.

Thursday, January 6, meeting, Liz Gittings residence, 124 Paseo Penasco. All interested persons invited.

Sunday, January 9, ski and or snowshoe trip. Terry Gibbs, leader.

Saturday, January 22, ski and or snowshoe trip. Bob Skaggs, leader.

ICE SKATING: Los Alamos Canyon rink, weather permitting. Children under 12, 15 cents; other students, 25 cents; adults 50 cents. Season tickets: Children \$3; adults \$5.

Mondays: General skating 3 to 5 p.m. and 7 to 9:30 p.m.

Tuesdays: Ladies Club 9:30 to 11:30 a.m.; general skating 3 to 5 p.m.; Figure Skating Club 6 to 7:30 p.m.; adults only 7:30 to 10 p.m.

Wednesdays: General skating 3 to 5 p.m. and 7 to 9:30 p.m.

Thursdays: Ladies Club 9:30 to 11:30 a.m.; general skating 3 to 5 p.m.; Figure Skating Club 6 to 7:30 p.m.; adults only 7:30 to 10 p.m.

Fridays: General skating 3 to 5 p.m. and 7 to 9:30 p.m.

Saturdays: General skating 2 to 4:30 and 7 to 9:30 p.m.

Sundays: General skating 2 to 4:30 p.m.; Figure Skating Club 6 to 7:30 p.m.; adults only 7:30 to 10 p.m.

LITTLE THEATER: "Never Too Late," comedy by Sumner Long, Civic Auditorium, January 21 and 22, 8:30 p.m. Directed by Neil Davis, domestic farce features John Wallwork, Lillian Israel, Arlene McDowell, Eddie Welch, Roy Reider, Lolly Shreffler, Dan Jones, Frank May and Don McCormick. Tickets—\$1.75 for adults, \$1 for students—available at the door.

FILM SOCIETY: Civic Auditorium. Admission by single ticket, 90 cents, or season ticket, \$4. Tickets available at door.

Wednesday, January 19, 7 and 9:20 p.m., "The Night Watch," French drama concerning a prison escape, directed by Jacques Becker. In French with English subtitles. 118 minutes. This is first film of new season.

PUBLIC SWIMMING: Los Alamos High School Pool, Adults 35 cents, children 15 cents. Saturday and Sunday 1 to 6 p.m. Monday, Tuesday and Wednesday, 7:30 to 9:30 p.m.

FOLK DANCING: International Folk Dancers Club, Recreation Hall, Tuesdays 7:45 to 11 p.m. First half hour is devoted to instruction. Everyone welcome, 40 cents per person per night.

Visitor Count Soars After Museum Moves

New quarters for LASL's Science Museum has brought on a new surge of visitors in the past three months.

Despite being closed for one week in September—to move from the old AP Building near Ashley Pond into the new building—the museum drew nearly twice as many visitors in September, October and November of 1965, than for the same three months last year.

Total visitor count for the 1965 quarter was 6,494 compared to 3,432 for the 1964 period. By the time the first anniversary date rolls around next September, museum officials expect the visitor count to pass the 30,000-mark. Work is progressing on new exhibits and exhibit furniture for the museum, and by the time the first vacation

visitors check in next May there will be several new exhibits for them to see in addition to newly framed historic pictures depicting the history-making two decades of the laboratory also coming is an expanded display of Indian artifacts from the Pajarito Plateau.

The museum is open every day, Monday through Saturday, and on Sunday afternoons. Informal guided tours are conducted for all visitors by Community Relations Office personnel or by trained teacher-guides.

For the last fiscal period in museum records, attendance reached 20,000 persons from all 50 states and 58 foreign countries. The period ended August 31, 1965, the date the museum was shut down for its move into new quarters.

Seaborg Says V-P's Energy Enormous But 'Not Nuclear'

Vice President Hubert H. Humphrey, who manifests an almost legendary amount of pep and ginger, addressed an American Nuclear Society-Atomic Industrial Forum banquet in Washington, D.C., on November 15.

AEC Chairman Glenn T. Seaborg introduced the Vice President with this observation:

"Our speaker has many qualities which I would like to call to your attention. No doubt some of them are quite familiar to you. For one thing, he is a man of enormous and seemingly boundless energy. Now just where he gets this energy I don't know. I seriously doubt that he burns conventional fuel, and I know he

hasn't applied to us to use anything nuclear. Whatever his source of energy is, I daresay if a way could be found to harness it we might all be out of business."

Maria Lujan Retires

Maria Lujan, who as matron at The Lodge is known to hundreds of Los Alamos residents and their visitors, retired last month after nearly 20 years service with the Zia Company. Mrs. Lujan attended the University of New Mexico and Highlands University and was a school teacher before coming to Los Alamos. She plans to travel but will retain her farm home at San Pedro, near Espanola.

'66 Edison Days To Pull Students From Five States

High school seniors from five states will get a taste of LASL's workaday world of science February 10 and 11 when they visit Los Alamos for the annual Edison Day tours.

Science advisors from 40 high schools in New Mexico, Arizona, Texas, Colorado and California have requested tour information, and more than half have already indicated they are coming.

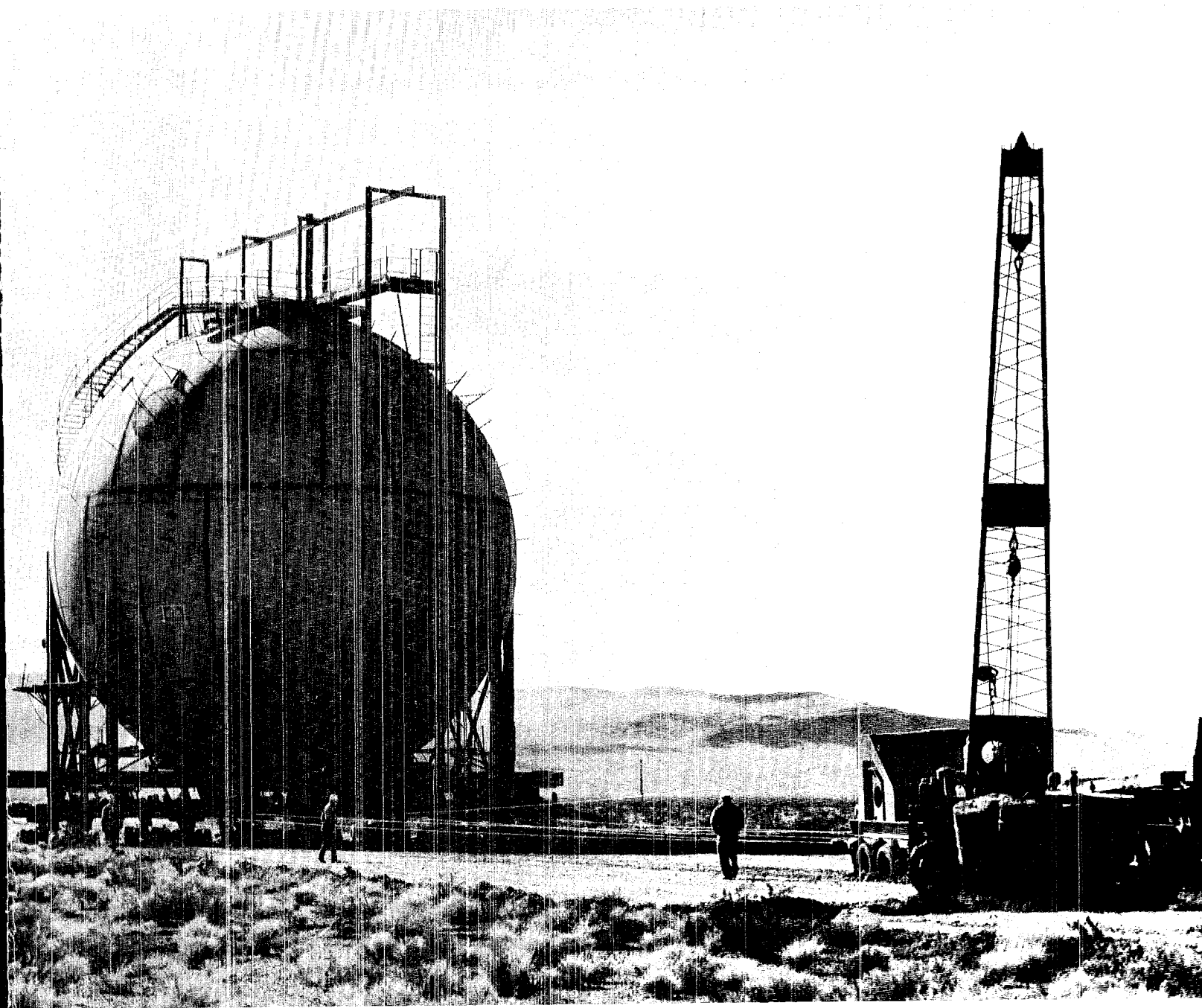
Senior science students from the 10 high schools in Phoenix, Ariz., will add the name of Arizona to the roster of states for the first time in several years. Los Angeles High School is sending five to seven winners of a science contest for the fifth year in a row, and Snyder, Tex., will be sending a group for the fourth straight year.

Some 600 students are expected for the daylong tours of three laboratory areas: Physics Building, the Van de Graaff Accelerator facility, and the Health Research Laboratory.

This will be the tenth year that Los Alamos Scientific Laboratory has participated in the nationwide observance of the birthday of inventor Thomas A. Edison. The tours are designed to bring interested students in close touch with scientists actively engaged in basic research programs. The groups are limited to 25 students from each school, and only senior class members are selected.

Penneman Serves

Robert Penneman, physical chemist in CMF-4, represented the Central New Mexico Section of the American Chemical Society at the Southwest Regional Representatives meeting in Memphis, Tenn., last month.



A 500,000-gallon liquid hydrogen storage tank was recently inched across the Jackass Flats desert to Test Cell C at the Nuclear Rocket Development Station in Nevada. Installation of two similar tanks at the test cell is part of a program to improve facilities for testing Phoebus reactors being developed by LASL. The storage tanks, each weighing 320 tons, were built by Chicago Bridge and Iron Company. Assembly was made some two miles from the test cell so as to not interfere with operations. The move took about a week. Each tank was transported on dollies with total of 160 wheels. Bill Jack Rodgers photo.

Speak softly, but...

By its very nature, a free society lives with danger—danger from the greedy, danger from the envious. A free society—our society—survives only if it remains vigilant, prepared to battle the danger that threatens.

However, vigilance is not enough. It must be supported by something stronger than determination. Today, the bulwark of our vigilance is our arsenal of nuclear weapons that deters aggression and preserves our free society. This nuclear deterrence is most vital to our national security.

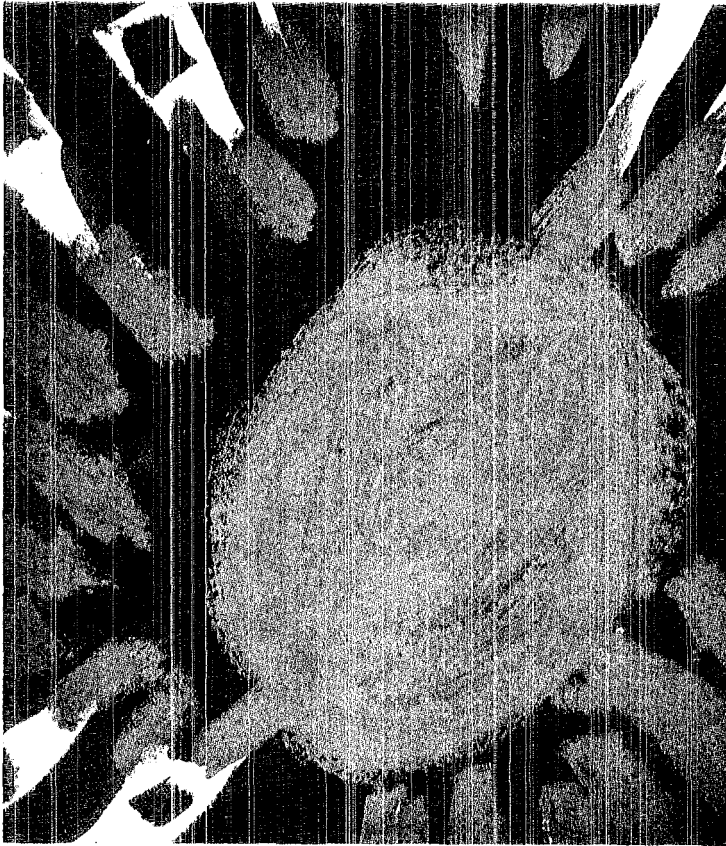
At Los Alamos Scientific Laboratory our job is to provide our nation with the best nuclear weapons. Our scientists and engineers explore new frontiers, to develop the most advanced nuclear weapons in the world.

Would you like to be a part of such an important project? Would you like to join us in looking to the future to find challenge and opportunity . . . the challenge of advanced problems in a broad range of research and development activities, and the opportunity to contribute significantly to your country's safety?

LASL is operated by the University of California for the Atomic Energy Commission. We are an equal opportunity employer, but because of the unique nature of our work, employees must be U.S. citizens.

If you are interested in the development of nuclear deterrence, write Director of Personnel, Div. 66-18

EDWARD GROTHUS
208 ANDANADA
LOS ALAMOS, NEW MEXICO 87544



This is the fourth in a series of ads featuring art by students in the Los Alamos school system. This painting is by Yolanda Vigil, who was a fourth grader at Mesa Elementary School when it was painted.

